WHAT IS CLAIMED IS:

1. A ~~non-toxic~~ dipolar solvent for chromogenic substrate for detecting presence of lacZ gene and/or lacZ gene activity, which comprises a stabilizing amount of ~~a~~ at least one solubilizing agent selected from the group consisting of 1-methylpyrrolidone (NMP), N^1-dimethyl propylene urea (DMPU) and propylene carbonate (PC) and comprises essential oil.

2. The solvent of claim 1, wherein said solvent is a microemulsion.

~~3. The solvent of claim 1, wherein said solubilizing agent is at least one selected from the group consisting of 1- Methylpyrrolidone (NMP), N'-dimethyl propylene urea (DMPU), Propylene carbonate (PC) and essential oil.~~

~~4.~~ 3. The solvent of claim 1, wherein said essential oil is present in an effective solubilizing concentration for dissolving said chromogenic substrate.

~~5.~~ 4. The solvent of ~~any one of~~ claims 3 ~~and 4~~, wherein said essential oil is selected from the group consisting of Abies alba, Aniba roseodora, Cedrus atlantica, Citrus aurantifolia, Citrus aurantium, Citrus bergamia, Citrus limon, Citrus paradisi, Citrus reticulata, Citrus sinensis, Cupressus sempervirens, Juniperus communis, Juniperus virginiana, Picea mariana, Pinus sylvestris, Ravensara aromatica, Rosmarinus officinalis, citrus extracts, pine terpenoids, conifers extracts, limonene oil and linseed oil.

~~6.~~ 5. The solvent of claim 1, wherein said chromogenic substrate is selected from the group consisting of X-Gal and IPTG.

~~7.~~ 6. A composition for detecting the presence of lacZ gene comprising the solvent of any one of claims 1-~~6~~ 5 and an effective amount of chromogenic substrate.

~~8.~~ 7. A method for inducing lac operon in screening assay, comprising the step of contacting an agar plate with at least one essential oil in a concentration sufficient to induce said lac operon.

~~9.~~ 8. The method of claim ~~8~~ 7, said lac operon being induced in one selected from the group consisting of *E. Coli*, Bacillus subtilis, phage, or *in situ* tissues.

~~10.~~ 9. The method of claim ~~8~~ 7, wherein said essential oil is selected from the group consisting of Abies alba, Aniba roseodora, Cedrus atlantica, Citrus aurantifolia, Citrus aurantium, Citrus bergamia, Citrus limon, Citrus paradisi, Citrus reticulata, Citrus sinensis, Cupressus sempervirens, Juniperus communis, Juniperus virginiana, Picea mariana, Pinus sylvestris, Ravensara aromatica, Rosmarinus officinalis, citrus extracts, pine terpenoids, conifers extracts, limonene oil and linseed oil.

~~11.~~ 10. A method for detecting the presence of bacteria, comprising the step of contacting an agar plate with at least one essential oil in a concentration sufficient to induce detection of said bacteria.

~~12.~~ 11. The method of claim ~~11~~ 10, wherein said essential oil is selected from the group consisting of Abies alba, Aniba roseodora, Cedrus atlantica, Citrus aurantifolia, Citrus aurantium, Citrus bergamia, Citrus limon, Citrus paradisi, Citrus reticulata, Citrus sinensis, Cupressus sempervirens, Juniperus communis, Juniperus virginiana, Picea mariana, Pinus sylvestris, Ravensara aromatica, Rosmarinus officinalis, citrus extracts, pine terpenoids, conifers extracts, limonene oil and linseed oil.